The Relationship between Self-Awareness and Leadership:

Extending Measurement and Conceptualisation

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Abstract

Psychological research focusing on the relationship between self-awareness and leadership has subsequently attracted criticism, regarding both the conceptualisation and measurements used therein. Specifically, the previous use of difference scores to measure self-awareness has become associated with issues of reliability and the conceptualisation of self-awareness within the emotional intelligence paradigm has been considered a limitation. To study the relationship between self-awareness and leadership while acknowledging the need for improved methods, the current research conceptually extended self-awareness to include recognition of cognitive and social intelligence as well as emotional intelligence within the self. In addition, the current study tested a newly proposed correlational method for measuring self-awareness. The leader-follower relationship was represented by seventy two managers who were each paired with one of seventy two respective subordinate employees. Each manager rated their own cognitive, social and emotional intelligence at two points in time, two weeks apart, and their respective employee subordinate rated the manager on twelve Leader Behaviours. As predicted, the managers‘ mean self-ratings were associated with employee-rated Leader Behaviour. Inconsistent with the literature and against prediction, correlational scores taken between the managers‘ two self-rating times were not associated with Leader Behaviour. In addition, results were inconsistent with the prediction that difference scores between the managers‘ two rating times would be associated with leader behaviour. The current study contributed to the scientific understanding of the association between social intelligence and leadership as well as the relationship between self-awareness and leader behaviour. Theoretical and practical implications are discussed in reference to organisational leadership.

The Relationship between Self-Awareness and Leadership: Extending Measurement and Conceptualisation

From a position of power, a leader can hold influence over followers ranging in number from a single employee to a whole national population of millions. Historically, this relationship has held potential for destructive outcomes in instances where leaders exhibit a narcissistic or otherwise distorted self-image (Rosenthal & Pittinsky, 2006). Fear of reprisal may lead followers to refrain from giving negative feedback to the leaders who subsequently perceive themselves as a more effective and righteous leader than their followers believe them to be. Without adequate feedback, leaders may not develop accurate knowledge on which to base self-awareness (Van Velsor, Ruderman & Young, 1992; Wilson, O'Hare & Shipper, 1990; Hazucha, Bentile & Schneider, 1992; Fenigstein, 1974). Research has been conducted to study self-awareness (Goleman, 1995; Salovey & Mayer, 1990) as well as the association between self-awareness and leadership (Atwater & Yammarino, 1992; Bass & Yammarino, 1991; Church, 1997; Sosik & Megerian, 1999; Tekleab, Sims, Seokhwa, Tesluk & Cox, 2008). In this previous research the measurements have been shown to have limitations (Johns, 1981; Edwards & Parry, 1993; Edwards, 1995; Edwards, 2001; Cronbach & Furby, 1970) and furthermore, the conceptualisation of self-awareness has been paradigmatically restricted (Locke, 2005).

The primary aim of the current research is to contribute to the scientific understanding of the relationship between self-awareness and leadership. The research design was intended to address some of the limitations of previous work in the area of self-awareness, in particular how self-awareness is measured. It was predicted that the self-awareness scores of leaders would be positively correlated with Leader Behaviour scores, rated by followers. In the current research, the concept of "leaders" was represented by manager participants, and the concept of "followers" was represented by employee participants working in positions subordinate to their respective manager participants.

Research showing that self-awareness is significantly associated with leadership effectiveness (Atwater & Yammarino, 1992; Church, 1997; Sosik & Megerian, 1999) has been useful, although there were fundamental problems in the conceptualisation of self-awareness within these studies, as well as limitations in the methods used. One theoretical limitation of the previous research is the conceptualisation of self-awareness as a fundamental construct within the Emotional Intelligence (EI) paradigm (Goleman, 1995). The present study conceptualised self-awareness as a broad construct which extended beyond EI, to awareness of one‘s cognitive and social abilities.

A methodological limitation common among the previous studies of self-awareness was the use of difference scores for measurement, which has been criticised (Edwards & Parry, 1993; Edwards, 1995; Edwards, 2001; Cronbach & Furby, 1970). In order to address this limitation, the current research methods use self-awareness operationalized as a consistency measure using managers‘ self-rated scores of ability which were measured twice, two weeks apart. The repeated ratings were correlated, so that rating consistency (a high correlation) could be used as an indicator of self-awareness. The measure for leadership used in the current study was the Leader Behaviour Description Questionnaire (LBDQ) form XII, which was developed at the Ohio State University (Stogdill, 1963). This was used to measure twelve Leader Behaviour factors which were Representation, Reconciliation, Tolerance of Uncertainty, Persuasion, Initiating Structure, Tolerance of Freedom, Role Assumption, Consideration, Production Emphasis, Predictive Accuracy, Integration and Superior Orientation. The Leader Behaviours in the LBDQ were used in the current study as a representation of leadership effectiveness.

Self-Awareness

Psychological research has mainly treated self-awareness as a construct within EI. The foundation of this can be seen in the work of Thorndike (1936), who researched the idea of ―social intelligences”. In much later research, the concept of EI was further developed from the

work of Salovey and Mayer (1990), who defined the construct as:

—. *the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions* (Salovey & Mayer 1990)."

In later research, Goleman (1995) named self-awareness (perceived as knowledge of one's emotions) as one of the five dimensions of the construct of EI.

The current study aims to extend the conceptualisation of self-awareness beyond the paradigm of EI to include Cognitive Abilities and Social Intelligence. The reason for this extension to include Cognitive Abilities was based on research arguing that an individual's self-awareness should also involve knowledge of their own cognitive intelligence (Locke, 2005). The rationale proposed for the use of Cognitive Abilities was partially based on findings from Lord, DeVader and Alliger, (1986) who reported that intelligence was significantly linked with leadership perceptions.

One theoretical reason for the current to study extend conceptualisation of self-awareness to include Social Intelligence was based on the findings of Stogdill and Coons (1957) indicating that one of the main factors in leadership, known as Consideration, involves social relationships between the leader and follower. In addition to these arguments, the paradigm of EI has itself faced severe criticism based on the argument that self-awareness of emotions may not reflect people's intelligence but rather a set of learned skills (Locke, 2005).

The definition of self-awareness provided by Goleman (1995) may be deemed sufficient for use in studies concerning EI, although it is unlikely that this would suffice for studies involving non-emotional forms of intelligence, such as mathematical, verbal, deductive and inductive forms of reasoning. These are important abilities in leadership because the leader of an organisation may need to understand the concepts of different corporate functions, strategic and technological environments, how to attain a competitive advantage and how to build a culture (Locke, 2005). In order to address these theoretical arguments, the current study included an adapted version of the cognitive ability scale from the Fleishman Job Analysis Survey

(Fleishman & Reilly, 1992) as part of the self-awareness survey for managers.

It was proposed that that content validity will be sufficiently established if the variable of self-awareness is operationalised to include cognitive and social forms of intelligence, as important attributes for which a person can be self-aware.

Locke, (2005) suggested that monitoring one's emotions may result from a personal choice to focus one's attention inwards rather than outwards, resulting in learned habits and reasoning rather than resulting from an in-born capacity for emotional intelligence. Locke, (2005) argued that the EI paradigm involves a concept of ~~"m~~multiple intelligences", that the supporters of this paradigm have not identified a common element among the abilities included in EI and that such a common element would be necessary for those abilities to be grouped into a single concept.

Because the findings of previous research demonstrated an association between leadership and the EI-based concept of self-awareness, a measure of Emotional Intelligence was included in the Self-Awareness Survey used in the current study. The EI measure used therein was the Emotional Intelligence Scale from Wong and Law (2002).

Leadership

Psychological research investigating the causes and factors associated with effective leadership has developed steadily through numerous theoretical approaches. Leadership research began with Trait Theory early in the 20th century (Stogdill, 1948), and evolved to include situational (Fiedler, 1967) and follower-based variables (Dansereau, Graen & Haga, 1975) before arriving at a stage where currently, researchers are considering alternatives to leaders and leadership in the theories of organisational structure (Podaskoff, MacKenzie & Bommer, 1996).

Traditional Theories of Leadership

The trait approach to leadership operates on the assumption that people are born with inherited traits, and that a combination of these traits in people may represent a capacity for

effective leadership Stogdill (1948). Surveys of early trait research by Stogdill (1948) and Mann (1959) reported that many studies identified personality characteristics that appear to differentiate leaders from followers. Mann (1959) found significant results for six leadership factors which were Intelligence, Masculinity-Femininity, Adjustment, Dominance, Extroversion-Introversion and Conservatism. Although this study was an interesting milestone in Trait Theory, Mann (1959) recognised the limitations of the findings based on interdependence among the samples used. This literature was improved upon during a subsequent study by Lord, DeVader and Alliger, (1986) which will be outlined further in the current literature review.

To uncover important traits for leadership, Stogdill (1948) defined six broad personal categories associated with the likelihood of becoming a leader. There were statistically small relationships for intelligence, task relatedness, and social character. Furthermore the findings of this research suggested that traits are not deterministic; rather, the traits merely indicate the likelihood or propensity for an individual to be accepted by others as a leader. In much later research, a contrary observation to the findings of Stogdill (1948) was asserted by Wright (1996) who commented that, other researchers found no differences between leaders and followers with respect to these characteristics, or even found people who possessed them were less likely to become leaders.

As trait leadership research continued, McCall and Lombardo (1983) identified four primary traits which were described as emotional stability and composure, admitting error, good interpersonal skills and intellectual breadth. Reported findings suggested that if present, the four traits should lead to success in leadership, and if absent they may allow the leadership to ~~d~~derail".

In Trait research, there has been insufficient consideration for situational variance in leadership roles. However in an important review of trait theory, Stogdill (1948) displayed awareness of these crucial factors, at the time reporting that leadership should be studied in regard to the interaction of variables which are in constant flux, and that leadership should also

be studied in reference to the context. Some of these observations by Stogdill (1948) exposed Trait Theory to criticism in the literature (Kirkpatrick & Locke, 1991). The evidence of Trait theory indicates that there are certain core traits which significantly contribute to successful business leadership. These traits however, are only a pre-condition and are not sufficient alone (Stogdill, 1948). One of the core traits found in this research was cognitive ability. This was particularly important for the present study, in which it is hypothesised that self-awareness of cognitive ability is related to effective leadership. Lord, DeVader and Alliger (1986), conducted a meta-analysis of the numerous studies in the Mann Database (Mann, 1959). Their research improved upon the analytical methods used in the original studies through establishing independence in samples, and from their findings they concluded that cognitive ability was strongly associated with effective leadership. Lord et al. (1986) found an average of seven significant correlations per study linking cognitive ability to effective leadership which was much higher than the results for the all of the other leadership factors they reviewed.

Although the research on leadership later shifted the focus from Trait Theory to Behavioural Theory (discussed following this section), Trait Theory was revisited in the 1990‘s. This period of research was associated with Neo-Trait Theory, during which Kirkpatrick and Locke (1991) focused on the leader motive pattern, also named ―Drive”. Their findings indicated that leadership motivation involves a desire to influence and lead others, as well as a willingness to assume responsibility. In a related Neo-Trait study, Yukl (1990) found three main points of convergence in the research named ―influencing” and ―motivating”, maintaining effective relationships, and making decisions.

During the later decades of the 20th Century, Behavioural Theory of leadership (also known as the Styles approach) served to counter the claims of Trait Theory, stating that effective leadership is the result of behaviours which can be taught, and does not require in-born traits (Stogdill, 1957 and Blake & Mouton, 1964). This approach altered the scope of research from focusing on ―leaders” to a focus on ―leadership” assuming a dominant position in leadership research during

the 1950‘s and early 1960‘s. Following the most fundamental research in Behavioural Theory by Stogdill (1957) at the Ohio State University, it was concluded that leadership was associated with two main behavioural factors, the first of which was –initiating structure” and the second of which was –consideration”. This work resulted in the Leader Behaviour Description Questionnaire (LBDQ), (Hemphill & Coons, 1957) which measures leadership in these two factors, using forty survey items. A later version, the LBDQ Form XII was the measure for Leader Behaviour used in the present study. This questionnaire was reported as valid in the work of Judge, Piccolo and Ilies (2004), who found that initiation of structure is highly correlated with leader effectiveness, and found consideration to be a valid predictor of worker satisfaction with the leader.

Research which formed the substantial body of literature known as on the Ohio State Leadership Studies (Fleishman, 1953; Halpin & Winer, 1957; Stogdill, Goode & Day, 1962) clarified that the Leader Behaviour factors of Initiating Structure and Consideration are not acted out on a continuum as such, and that leaders do not necessarily perform one behaviour independently of the other behaviour. These two factors were either often closely and sometimes synonymously replicated in subsequent studies (Fleishman & Stogdill, 1957; Katz & Kahn, 1952; Newport, 1962). Although these factors were given different names, they represent the same variance in leadership ability.

One popular example of subsequent research in Behaviour Theory of leadership is that of Blake and Mouton‘s Managerial Grid (1964; 1978) which grew out of the Ohio State Leadership Studies. In their research, Blake & Mouton (1964; 1978) re-labelled Initiating Structure and Consideration as –Concern for task”, and –Concern for people” respectively. This work involved grouping together different patterns of behaviour and labelling them as styles. This led to a series of practical methods for diagnosing and developing leaders‘ work-styles. Blake and Mouton (1964; 1978) devised five leadership styles based on the presence of these behaviours in leaders. It was decided that the most effective style involved a leader scoring high on both behaviour

types, and this was known as the –team style". These diagnostic and developmental methods were challenged in subsequent research by Sadler (1997), who claimed that there were many differences and inconsistencies between the studies, and that it was not clear that there were associations between certain leadership styles and performance. As Wright, (1996) observed, the problems in Behaviour Theory were similar to the problems experienced in the earlier trait research; researchers did not adequately examine the context in which leader styles were operating.

The Situational approach to leadership came about when researchers considered leadership in terms of the contexts in which it is enacted. It appeared that although no one particular leadership style was effective in every context, there could be a way of determining which styles would be effective in certain situations. Some of this research was focused towards the way in which leaders emerge, and some focused on how the relationships between leaders and followers may differ between in variety of possible military, political or commercial contexts. Situational leadership theory also eventually led researchers to focus on the changing needs of subordinates (Fiedler, 1967).

Fiedler (1967) is widely acknowledged as the founder of contingency theory, which grew as part of the situational approach to leadership. Fiedler (1967) argued that effectiveness depends on two interacting factors, namely leadership style and the degree to which the situation gives the leader control and influence. This research held three main points as important, which were the relationship between leaders and followers, the structure of the task and position power (the effect of a leader's own power on themselves). This research also categorised leadership styles in terms of being task-motivated or relationship-motivated. Fielder's (1967) work led to the Least Preferred Co-Worker Scale (LPCs), which places the leadership style together with the situation, in order to diagnose a possible miss-match between them.

In research conducted by Blanchard, Zigarmi and Nelson (1993) the factors of –supportive" and –directive" were created to replace the old factors of –task behaviour" and –relationship

behaviour" due to findings that the old labels had become confusing to some, and still implied a continuum between the two. As an example, an effective manager who provides emotional support does not necessarily do this independently of the task.

Following the development of the aforementioned theories, research on leadership examined the interactive nature of the leader-follower relationship (Dansereau, Graen & Haga, 1975). The two main approaches in this area were named Leader-Member Exchange Theory and Vertical Dyad Theory. Leader-Member Exchange (LMX) Theory was first described by Dansereau, Graen, & Haga (1975). This theory incorporated the idea of having an in-group and an out-group in the organisation. There is a process whereby the employee and the leader form an understanding in their working relationship, which may lead the employee to move into the in-group or the out-group. These two groups represent only two thirds of the employee population, which are at polar opposites regarding their relationship with the leader. This research, along with the Vertical Dyad Linkage model (Cashman, Dansereau, Graen, & Haga, 1976) found that leaders may not operate in just one style, but rather in different styles for employees depending on where those employees sit in reference to the in-group and the out-group.

To summarise the main points introduced so far, a study by Atwater and Yammarino (1992) found a positive relationship between self-awareness and leadership, providing a foundation of literature which was supported by subsequent research (Sosik and Megerian,1999; Church, 1997). Theoretical and practical elements within that body of research have attracted criticism (Locke, 2005). As described in the introduction, criticism has been directed at the conceptualisation of self-awareness within emotional intelligence (Locke, 2005) and at the practical limitations of using difference scores as a measure of self-awareness (Edwards & Parry, 1993; Edwards, 1995; Edwards, 2001; Cronbach & Furby, 1970).

To summarise the points introduced regarding the literature on leadership, it is herein acknowledged that a combination of traits, behaviours, contextual factors, and the influence of followers are important in the formation of leadership knowledge. Although the current study

used a behavioural approach to measuring leadership, the author acknowledges that contextual variance warrants a methodical consideration, based on this it was expected that the expanded twelve factors in the LBDQ Form XII should allow this measure to access the wide variety of leader-follower relationship existent in the New Zealand workforce. With a greater variety of Leader Behaviours measured, the questionnaire may be operationally relevant to a wider variety of manager-employee relationship among participants.

Self-awareness and Leadership

In a large-scale study using three samples in different occupational and cultural contexts, Chan and Drasgow (2001) identified three types of people who desire to be leaders. The first type of person perceives themselves as having leadership qualities. The second type of person feels the need to lead others not from reward, but because of their agreeable disposition. The third type of person do not necessarily see themselves as having leadership qualities, but are motivated to lead by a sense of social duty and obligation. These examples of people‘s motivation towards leadership all involve some type of self-awareness, which supports the theory that self-awareness plays a fundamental role not just in the execution of leadership, but also in the construct of what drives or motivates people to become leaders. A study by Atwater and Yammarino (1992) examined whether self-awareness of leaders (using difference scores) would moderate the validities of selection devices to predict leadership performance in a military setting. Their findings indicated that the magnitudes of correlations between predictors and leader Behaviour, as well as between Leader Behaviour and performance, varied as a function of self-awareness. Research which further supports the relationship between self-awareness and leadership, Sosik and Megerian (1999) examined relationships between the variables of self-awareness, transformational leadership, and managerial performance. Self-awareness was measured as part of the construct of EI, using difference scores. The study also extended the research to a non-military population sample, and demonstrated further support for a proposed

relationship between self-awareness and leadership effectiveness.

The aforementioned research by Atwater and Yammarino (1992) categorised leaders in terms of overestimation and underestimation of their leadership ability, finding that leaders who overestimated their abilities were negatively related to leadership performance. The current research did not investigate the overestimation phenomenon because it was deemed a priority to first establish whether the self-awareness measures in the research plan would predict Leader Behaviour.

Building upon the work of Atwater and Yammarino (1992), research by Church (1997) investigated between high-performing and average –performing managers using difference scores and found that high-performing managers were more managerially self-aware compared with average-performing managers. Regardless of the performance criteria, they consistently found that high-performing managers were more accurate in assessing their workplace behaviours. This study is useful as it demonstrates a strong association between self-awareness and leadership in a manager sample.

To the best of the author‘s knowledge, research examining the relationship between self-awareness and leadership has only been conducted within the EI paradigm, and one aim of this study is to include in the measure of self-awareness, aspects which are non-emotional.

Measurement of self-awareness

One limitation occurring in previous research investigating the relationship between self-awareness and leadership is that these studies have mostly used difference-scores, which were typically formed by examining the difference between independent ratings of organisational members in dyadic relationships. In the context of researching self-awareness and leadership, the difference score usually represents the difference between a leader‘s self-rating on a set of behaviours and a follower‘s rating of the leader on the same behaviours. This measurement approach is often also referred to as –self-other agreement ratings”, when a lower difference-

score is considered an indication of agreement (Sosik & Megerian 1999; Atwater & Yammarino, 1992). In the aforementioned fundamental research on self-awareness and leadership, Atwater and Yammarino (1992) designed a procedure in which self-raters were placed into categories based on the extent of difference between their own ratings and the ratings of subordinates. Sosik and Megerian (1999) used this same procedure in their study, which further extended research on the relationship between self-awareness and leadership.

As mentioned previously, difference scores have been subjected to criticism (Johns, 1981; Edwards & Parry, 1993; Edwards, 1995; Edwards, 2001; Cronbach & Furby, 1970) regarding potential unreliability, spurious correlation with other variables and questionable construct validity. Possibly the main criticism, is the reference to reliability; each difference score is formed from two component measures, each of which is likely to cause random error of measurement. When difference scores are correlated with each other, the reliability of both component measures becomes attenuated which causes problems for the interpretation of results.

It was a primary aim of the present study, to improve upon previous research through the use of a self-awareness measure which was not based on a difference score approach. The Fleishman Job Analysis Survey (Fleishman & Reilly, 1992) was adapted to be presented to managers for rating their own ability in cognitive, psychomotor, physical, and sensory-perceptual domains. This measure was repeated a second time (two weeks later). The ratings from Time 1 and Time 2 were correlated. The leaders who showed a high similarity between the two rating times (a high correlation), were considered more self-aware than those who had inconsistent scores (low correlation). As a measurement tool with a range from 0 to 1, the correlations constituted the operationalisation of Self-Awareness, which was then able to be correlated with scores for Leader Behaviour.

The research outlined in the present literature review suggests that effective relationship management known as ~~–c~~onsideration" comprises a large factor in successful leadership. Based on the literature, it was decided that Social Intelligence is an attribute through which self-

awareness would likely associate with effective leadership; subsequently, The Tromso Social Intelligence Scale (Silvera, Martinussen & Dahl, 2001) was implemented in the current study to measure self-ratings of Social Intelligence from the manager sample.

Using correlations to measure self-awareness should provide a much more accurate measure than using difference scores. As a representation of a manager‘s self-awareness, difference scores would only represent the disparity between the means of a particular scale or a sub-scale. By correlating the manager‘s self-ratings from Time 1 and Time 2 across items within each sub-scale, the current study provides a deeper, more thorough investigation into self-awareness.

In addition to the proposed correlational measure for self-awareness, a difference score approach was used in the current study. This was to enable for a comparison between the results gained by these two approaches, both in terms of reliability, as well as in regarding the size of any relationship found between Self-Awareness and Leader Behaviour.

The research conducted by previous authors has involved taking ratings of leaders‘ performance given by groups of employees and averaging over the scores to provide the final score for leader performance. This is a method which the present study avoided because of the phenomenon of nested data which can occur when the measurement of group ratings on a single leader becomes contaminated by intra-group perceptions. The members of a group may contribute to each other‘s perceptions of their leader and leading to a detrimentally high homogeneity of within-group perceptions. This phenomenon could subsequently exclude individual perceptions which could otherwise be useful to the research (Esser, 1998). Based on this reasoning, the current study used a single employee to rate the Leader Behaviour of each manager.

Control Variables

Because the current study employed a consistency approach over time for the measurement of self-awareness, it was important to control for fluctuations in how the manager feels from day-

to-day, which could subsequently affect the leader‘s self-ratings. To address this, the Brief Mood Intospection Scale (BMIS) created by Mayer, and Gaschke (1988) was included as part of the self-awareness survey.

To outline a summary of the points described above, self-awareness has been linked to leadership not only through the prediction of leader performance, but also through people‘s various motivations to lead. Criticism of previous research on the relationship between Self-Awareness and Leadership has faced criticism regarding conceptualisation of self-awareness within the EI paradigm and the difference score method used to measure Self-Awareness. In the current research an overall survey was constructed using four previously established psychological surveys including the Fleishman Job Analysis Survey (Fleishman & Reilly, 1992), the Tromso Social Intelligence Scale (Silvera, Martinussen, & Dahl, 2001), the Emotional Intelligence Scale (Wong & Law, 2002) and the Brief Mood Intospection Scale (Mayer & Gaschke, 1988).

The first aim of the current research was to improve upon the methods used previously in research on the relationship between Self-Awareness and Leadership and the second aim was to investigate this relationship. In order to improve upon previous research methods, the current study extended the concept of self-awareness beyond Emotional Intelligence and also extended the measurement of self-awareness beyond the use of difference-scores. To investigate the research questions proposed in the current study, three hypotheses were formulated:

Hypothesis 1: Managers' self-ratings on Cognitive Abilities, Social Intelligence and Emotional Intelligence will be positively related to Leader Behaviour scores.

Hypothesis 2: Managers with higher self-awareness scores (defined by correlation between time one and time two) will be positively associated with Leader Behaviour scores.

Hypothesis 3: Managers with lower difference scores between self-ratings at Time 1 and Time 2 (representing higher self-awareness) will be positively associated with Leader Behaviour scores.

Method

Sampling

The participation of employee-manager pairs in various private and public organisations in New Zealand was sought through a variety of methods, which included approaching organisations in person, using email and telephoning potential participants. Participants were contacted and were provided with a brief description of the study (Appendix A) and the participant rewards which included an instant kiwi lottery ticket, and an entry into a draw to win a weekend holiday prize. During the briefing of the study, it was explained that the managers must complete their surveys two weeks apart. Confidentiality and security of data were assured to all participants.

The required sample size was estimated through a preliminary power analysis. Estimating conservatively that Self-Awareness may account for 10% of the variance in leadership performance using multiple regression, it was found that approximately 80 pairs of participants would be suitable.

Participants

Seventy-two managers paired with 72 employees who each report to their respective manager participated in the study. The manager sample included 25 females and 47 males. The age of managers ranged from 23 to 65 years (M = 44.5, SD = 10.7). No information on employee age or gender was gathered. The participating organisations were from a variety of industries both private and public.

Measures

In order to measure managers‘ self-ratings, questionnaires for Cognitive Ability, Social Intelligence and Emotional Intelligence were combined into an overall survey of self-awareness for the manager participants. In order to control for mood as a variable which may affect self-

awareness, added to this survey was a questionnaire measuring mood. With the exception of the mood scale, all measures in the Self-Awareness Survey used a 7 point Likert scale (1 = *describes me very poorly* to 7 = *describes me extremely well*). The Self-Awareness Survey was constructed in three forms, each of which presented the four questionnaires in a different order to reduce variance from order-effects. The survey order for Form A was Cognitive Abilities, Social Intelligence, Emotional Intelligence and Mood. The survey order for Form B was Cognitive Abilities, Emotional Intelligence, Social Intelligence and Mood. The survey order for Form C was Social Intelligence, Emotional Intelligence, Cognitive Abilities and Mood. All survey scales were subjected to a reliability analysis, in order to establish if the Cronbach's alphas reached the cut-off of .7 recommended by Nunnally, (1978).

Cognitive Abilities Scale

The Cognitive Abilities Scale from the Fleishman Job Analysis Survey (Fleishman & Reilly, 1992) was adapted so that managers could rate their own ability in cognitive, psychomotor, physical, and sensory-perceptual domains referred to in the current study as "cognitive abilities". This scale has twenty-one items and measures the factors of Perceptual Abilities, Spatial Abilities, Idea Generation and Reasoning, Quantitative Abilities, Memory, Attentiveness, and Verbal Abilities using three items each. The item presents the respondent with a statement, an example of which is, "I have a high ability to add, subtract, multiply, or divide numbers quickly and correctly." The respondent indicates how accurately the statement describes them on a Likert scale from one to seven, with seven indicating a high accuracy. This scale was scored by averaging the responses over the whole scale, to give an overall cognitive abilities score for each of the measurement times. The reason the subscales were not used as individual scores was that the low item to factor ratio would not allow for a sufficient reliability check. The cognitive abilities scores from time one and time two are then correlated to establish a self-awareness score to represent stability of self-perception in the managers. In addition to this, a difference score

was obtained by subtracting the cognitive abilities score for time one from time two.

In the present study the reliability check for this scale found a Cronbach‘s alpha of .84 for time one, and .83 for time two.

Social Intelligence Scale

The Tromso Social Intelligence Scale (Silvera, Martinussen & Dahl, 2001) was included in the self-awareness survey for managers. This scale has 21 items, and measures three social intelligence factors using 7 items each. The factors are Social Skills (regarding social performance), Social Awareness and Social Information Processing (the latter two are factors of social perception). The item presents the respondent with a statement, an example of which is, ―I am good at entering new situations and meeting people for the first time.”

Eleven of the items in the scale were worded negatively and subsequently required reverse-coding. Scoring this scale involves summing the item scores for each factor and dividing the sum by the number of items to produce a factor score, with a high score indicating that the participant believes that they have a high ability on that skill set. Silvera and Marinussen (2001) report internal consistency coefficients for the three facets of Social Skills, Social Awareness and Social Information Processing as .85, .72 and .79 respectively.

In the present study the reliability check for this scale found Cronbach‘s alpha values for the subscale factors of Social Information Processing (.75 for time one, .76 for time two), Social Skills (.77 for time one, .72 for time two) and Social Awareness (.71 for time one, .77 for time two).

Emotional Intelligence Scale

The Emotional Intelligence Scale (Wong & Law, 2002) uses 16 items to measure four facets of emotional intelligence which are self-emotion appraisal (SEA), others emotion appraisal (OEA), use of emotion (UOE), and regulation of emotion (ROE). Each scale item presents the

respondent with a statement, and example of which is, ―I have a good sense of why I have certain feelings most of the time."

Respondents are asked to indicate how accurately each statement describes them on a 7 point Likert scale (1 = *describes me very poorly* to 7 = *describes me extremely well*). The standard procedure for scoring this scale involves summing the items for each of the four emotional intelligence factors in the scale and then dividing this by the number of items in that factor to provide a factor score; a high score would indicate that the respondent believes that they have a high ability on this factor. Wong & Law (2002) reported that the four facets had an internal reliability range of .76-.89.

In the current study the reliability check for this scale found Cronbach's alpha values for the subscale factors of self emotion appraisal (.72 for time one, .83 for time two), others emotion appraisal (.77 for time one, .81 for time two), use of emotion (.81 for time one, .80 for time two) and regulation of emotion (.62 for time one, .87 for time two).

Brief Mood Introspection Scale

The Brief Mood Introspection Scale (BMIS) was created by Mayer and Gaschke (1988). This scale contains sixteen mood adjective items which measure eight mood factors using two items each. The eight mood factors are happy, loving, calm, energetic, fearful, angry tired and sad. An example of the two adjectives presented for the ―happy" factor, are ―Happy" and ―Lively". This scale is scored by the respondent on a scale of one to four, rating how well each adjective or phrase describes their present mood, with four indicating a good match between the adjective and the respondent's mood. The responses for all of the items are summed and then divided by the number of items (sixteen) to provide a mood score for each time of measurement.

Research by Mayer and Gaschke (1988) found that the eight mood subscales in the BMIS corresponded to the eight mood subscales in the Mood-State Introspection Scale (MIS) also created by those authors. Mayer and Gaschke (1988) reported sound factorial validity for all

subscales as well as good reliability for three of the subscales. In the present study the reliability check for this scale found Cronbach‘s alpha values for the BMIS scale as .53 for time one, and .22 for time two.

Leader Behaviour Description Questionnaire Form XII

The original research at the Ohio State University by Stogdill and Coons (1957) concluded that leadership is made up of two main factors, the first of which is –initiation of structure” and the second of which is –consideration”. The LBDQ Form XII (Stogdill, 1962) was created to include ten additional leadership factors to form a total list of twelve factors including representation, reconciliation, tolerance of uncertainty, persuasiveness, initiating structure, tolerance of freedom, role assumption, consideration, production emphasis, predictive accuracy, integration and superior orientation. These factors were uncovered in the work of Stogdill (1959) who found that the factors operated in the differentiation of roles in social groups.

This measure was used because it was an accessible, more recent and more developed version than the original. In the current study it was expected that the additional factors will provide some measurement beyond the previous two factors (consideration and initiating structure) to account for the contextual influence on what type of leadership performance is needed in specific jobs. The LBDQ Form XII was accessed online from the Ohio State University, Fisher College of Business.

The scale items each present a statement about the manager, an example of which is, –Encourages initiative in the group members”. The survey respondent rates the statement on how accurately it describes the managers, on a scale of one to five, with five representing a high accuracy. Scoring the LBDQ scale involves summing the item-scores for each factor and dividing that by the number of items. This provides scores for each of the LBDQ subscale factors which can then be added and divided by 12 to gain an overall leadership score.

Stogdill (1962) reported Kuder-Richardson reliability coefficients for the leadership factors

across several manager participant categories, for example, Army Division, Community Leaders, Senators and Corporation Presidents. The results showed varying ranges of consistency from the Kuder-Richardson coefficients for the factors of representation (.55-.85), reconciliation (.58-.81), tolerance of uncertainty (.58-.85), persuasion (.69-.85) initiating structure (.64-.80), tolerance of freedom (.65-.86), role assumption (.57-.85), consideration (.38-.87), production emphasis (.59-.79), predictive accuracy (.62-.91), integration(.73-.79) and superior orientation (.60-.81). The reliability results found in the present study found Cronbach's alpha coefficients for the leadership subscale factors of representation (.79), reconciliation (.81), tolerance of uncertainty (.81), persuasiveness (.85) initiating structure (.75), tolerance of freedom (.90), role assumption (.85), consideration (.74), production emphasis (.88), predictive accuracy (.70), integration(.68) and superior orientation (.74).

Materials and Procedure

The sampling procedure was guided by the following criteria. This research design involved multiple surveys over time, requiring a higher commitment from participants than in a simple one-off survey. This fact added to the difficulty of gaining participation and subsequently the participant pool was not restricted to a single company or industry. It was also decided that this breadth of inclusion would help reduce the risk of influence on the data from intra-organisational variance and industrial compartmentalisation. Participation was voluntary and the rewards offered in return for completion of the surveys included an Instant Kiwi lottery ticket and an entry into a prize draw to win a weekend package at Hanmer Springs Spa Resort. The following sampling and reward design was approved in the low-risk category by the University of Canterbury Human Ethics Committee.

Potential participants were asked to confirm that they worked in a genuine leader-follower relationship.

Once eligibility was established, the person of contact in the participating organisation was

sent a package containing everything required for participation. Each package contained three unsealed, postage-paid envelopes labelled –Manger Time 1", –Manager Time 2" and –Employee", as well as an instruction sheet for the managers (Appendix D). The instruction sheet informed the manager that they were to complete their two surveys at two time points two weeks apart, and then instructed them to open the envelope labelled –Manger Time 1", complete the Self-Awareness Survey (Appendix F) and then post it in its envelope. This Manager Time 1 envelope contained a copy of the Self-Awareness Survey (Appendix F) with the information sheet attached (Appendix C). The instructions at the start of this survey guided them to enter the first two letters of their mother's name followed by the last four digits of their cell phone number (or land line number if necessary). This was to allow the two manager surveys to be matched by a code without compromising the confidentiality of the manager participant. The manager was instructed that two weeks later, they should open the envelope labelled –Manager Time 2", complete the survey and then post it in its envelope. This envelope also contained a copy of the Self-Awareness Survey with the information sheet attached, in which they were again asked to enter a code for matching the surveys. The envelope also contained an email slip. The instructions informed the manager that if they wish to go into the prize-draw they should write their email address on the email slip and include it in the envelope when posted. Where possible, participants were sent an email to remind them that two weeks had almost passed and they would need to complete the second survey soon.

The instruction sheet directed the manager to give the employee participant their envelope, which contained an employee instruction sheet (Appendix E), a copy of the LBDQ survey (accessed online) and a blank email slip, on which the employee participant could write their email address, enabling them to enter in the prize-draw. The employee instruction sheet requests the employee to make sure they know which manager they are going to rate in the survey. The instructions then guide the employee to read the information sheet on the front of the survey before completing it and posting it in the postage-paid employee envelope. The instructions also

inform the employee that they should write their email address on the email slip and include that in the envelope before posting.

The information sheets attached to the front of all surveys described the nature of the study, the researcher‘s contact details, data confidentiality/security, and informed consent. The information sheets mention that the study had gained approval from the University of Canterbury Human Ethics Committee.

Participants completed the pen-and-paper surveys either at work or on their own time. Upon completion of the survey, the participants who had indicated interest in the rewards had their email address entered into the draw to win the holiday prize, and they were sent their Instant Kiwi lottery ticket via mail.

Results

This results section first presents descriptive statistics for the scales used. Following this are the results from analyses examining whether the intelligence variables predicted Leader Behaviour. The results for Hypothesis 1 which predicted that self-ratings on Cognitive Abilities, Social Intelligence and Emotional Intelligence would be positively related to Leader Behaviour, are shown in this middle section. Finally, the results are presented for the analyses examining the relationship between Self-Awareness and Leader Behaviour. This later section shows the results for Hypothesis 2, which predicted that leaders with higher correlational self-awareness scores on Cognitive Abilities, Social Intelligence and Emotional Intelligence would be positively associated with higher scores for Leader Behaviour. This later section also presents results for Hypothesis 3, predicting that leaders with lower self-awareness difference scores would be positively associated with higher scores for Leader Behaviour.

Descriptive Statistics

Descriptive statistics for data obtained using the Cognitive Abilities Scale, the Tromso Social Intelligence Scale and the Emotional Intelligence Scale were calculated using SPSS Statistics 17.0 software. Table 1 displays the basic features of self-report data gained from managers at Time 1 and Time 2. Also shown in Table 1, are the mean differences as well as the mean correlations between data gained at Time 1 and Time 2. Inspection of Table 1 shows that the Social Intelligence factors had the lowest mean scores, whereas the Cognitive Abilities and Emotional Intelligence factors show mean scores all over 5. The highest standard deviations were found in the factor of Regulation of Emotion and the lowest standard deviations were found for Cognitive Abilities at both Time 1 and Time 2, with the highest standard deviation found for Regulation of Emotion. All factors except for Regulation of Emotion showed mean correlations between Time 1 and Time 2 that were of a medium size. The mean correlation for Regulation of

Emotion was relatively small and the mean correlation for Social Skills was large. Although these are only descriptive statistics, the inference may be made that the size of the correlations shown indicates that the self-report scales did measure Self-awareness to some extent.

Table1
Descriptive Statistics for Self-Ratings on Cognitive, Social and Emotional Ability Factors

	Manager Self-Report Time 1		Manager Self-Report Time 2		Mean Difference Scores	Means of Correlations Between T1 and T2
Variables	M	SD	M	SD		
Cognitive Abilities	5.19	.53	5.21	.51	0.19	.59
Social Info Processing	4.96	.67	5.01	.65	0.35	.47
Social Skills	4.87	.84	4.93	.74	0.35	.70
Social Awareness	4.81	.76	4.81	.81	0.37	.48
Self Emotion Appraisal	5.44	.66	5.50	.79	0.32	.46
Others Emotion Appraisal	5.04	.77	5.12	.84	0.42	.47
Use of Emotion	5.50	.98	5.50	.93	0.34	.48
Regulation of Emotion	5.10	.95	5.10	1.03	0.40	.31

Descriptive statistics were calculated for the Leader Behaviour Description Questionnaire (LBDQ) Form XII. The means and standard deviations for the twelve LBDQ sub-scale scores are shown in Table 2. The LBDQ was scored on a Likert scale of 1-5, and the means shown for sub-scale factors shown are high, relative to the mid-point of the scale. This trend describes a tendency for employees to rate managers highly on the LBDQ. The highest means shown occurred in responses for Representation, Structure, and Role Assumption. The subscale factor Production Emphasis showed the highest standard deviation relative to the other subscales, and Predictive Accuracy showed the lowest standard deviation.

Table 2
Descriptive Statistics for LBDQ Factors

Variables	M	SD
Representation	4.04	.65
Reconciliation	3.88	.66
Tolerance of Uncertainty	3.49	.56
Persuasion	3.86	.56
Structure	3.98	.48
Tolerance of Freedom	3.82	.67
Role Assumption	3.92	.66
Consideration	3.73	.53
Production Emphasis	3.66	.70
Predictive Accuracy	3.80	.48
Integration	3.82	.56
Superior Orientation	3.77	.54

Scores from the Brief Mood Introspection Scale (BMIS) were analysed to determine whether the mood of the managers differed greatly between the Time 1 and Time 2 measurements. A significant variation in mood could potentially create artificial distortions in the Self-Awareness variables. A repeated measures ANOVA was used to compare the BMIS scores from Time 1 and Time 2. Examination of the Wilks Lambda statistic indicated no significant difference [$F(1, 71) = .61$ $p = 0.436$] between the two measurement times. This allowed the analysis to continue with some confidence that the Self-Awareness data-set was not contaminated by mood variance.

Variables which Predict Leadership

Hypothesis 1 predicted that the self-ratings on measures for Cognitive Abilities, Social Intelligence and Emotional Intelligence would be positively related to Leader Behaviour. It was important to find out if self-rated competence in these abilities was associated with Leader Behaviour, before starting to investigate whether self-awareness of these abilities was also associated with leadership. In order to test this hypothesis, multiple regression analyses were conducted. These analyses regressed the overall scores for Leader Behaviour onto the overall scores for Cognitive Abilities, Social Intelligence and Emotional Intelligence from Time 1 and

from Time 2. Prior to conducting these regressions, the correlations between the independent variables were examined to check for multi-collinearity.

A correlation matrix was produced to examine the multi-collinearity between the grand mean scores for overall Cognitive Abilities, Social Intelligence and Emotional Intelligence as self-rated by managers. The results of the analysis are shown in Table 3. The correlations between these scores were medium in size, but because they were not large this indicates that there was not a detrimental degree of collinearity between the predictor variables.

Table 3
Correlations between the Overall Scores for Cognitive, Social and Emotional Abilities.

	1	2	3
1.Cognitive Grand Mean	-	.344**	.511**
2.Social Grand Mean		-	.487**
3.Emotional Grand Mean			-

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4 shows the results of the regressions, each using scores on Leader Behaviour as the dependent variable. The first regression entered overall self-rated scores on Cognitive Abilities, Social Intelligence and Emotional Intelligence at Time 1 as independent variables. The second regression entered overall self-rated scores on Cognitive Abilities, Social Intelligence and Emotional Intelligence at Time 2 as independent variables.

The overall scores for Social Intelligence and Emotional Intelligence were created by forming a grand mean from the mean scores for each of the sub-scales within. The results in Table 4 for the first regression show a significant prediction of 11% of variance in Leader Behaviour from the independent variables of overall scores for Cognitive Abilities, Social Intelligence and Emotional Intelligence taken at Time 1. Only the overall score for Social Intelligence showed a significant beta weight, which indicates that Social Intelligence was the only strong predictor of

Leader Behaviour in this model. The results in Table 4 for the second regression show a significant prediction of 8% of the variance in Leader Behaviour from the overall scores of Cognitive Abilities, Social Intelligence and Emotional Intelligence taken at Time 2 and again, only the overall score for Social Intelligence showed a significant beta weight.

Table 4
Results of Multiple Regressions for Time 1 and Time 2 Overall Ability Scores as Predictors of Overall Leadership Effectiveness.

	Coefficients			
Predictor	B	β		*p*-level[a]
Constant	2.384			.000
Time1 Overall Cognitive	.002	.002		.985
Time1Overall Social	.187	.292		.022
Time1 Overall Emotional	.097	.161		.241
R^2			.151	
F			4.038	.011
ΔR^2			.114	
Predictor	2.334			
Time2 Overall Cognitive	.092	.128		.334
Time2 Overall Social	.187	.269		.049
Time2 Overall Emotional	.016	.029		.846
R^2			.124	
F			3.22	.028
ΔR^2			.086	

Note. Labels for predictor variables have been abbreviated. Mean scores for overall Cognitive Abilities at Time 1 are labelled Time 1 Overall Cognitive. Mean scores for overall Social Intelligence at Time 1 are labelled Time 1 Overall Social. Mean scores for overall Emotional Intelligence at Time 1 are labelled Time 1 Overall Emotional. The same abbreviation applies for predictors at Time 2.
[a] N = 72.

Table 5 shows results for the regression with overall Cognitive Abilities, Social Intelligence and Emotional Intelligence scores predicting overall employee-rated Leader Behaviours. Results show that the overall Cognitive Abilities, Social Intelligence and Emotional Intelligence accounted for 10% of the variance in Leader Behaviour. The strongest predictor was the overall Social Intelligence score, which was also the only predictor with a significant beta weight. Because the beta weights for overall Cognitive Ability and overall Emotional Intelligence were non-significant, this implies that Social Intelligence was the main predictor among these variables.

Table 5
Results of Multiple Regressions for Overall Ability Scores as Predictors of Overall Leadership Performance

	Coefficients			
Predictor	B	β		*P*-level[a]
Constant	2.29			
Overall Cognitive	.048	.067		.614
Overall Social	.201	.290		.028
Overall Emotional	.054	.091		.542
R^2			.142	
F			3.75	.015
ΔR^2			.104	

Note. Labels for predictor variables have been abbreviated. Mean scores for overall Cognitive Abilities are labelled Overall Cognitive. Mean scores for overall Social Intelligence labelled Overall Social. Mean scores for overall Emotional Intelligence are labelled Overall Emotional.
[a] N = 72.

An ancillary analysis was undertaken in the form of a multiple regression in order to establish whether the age of the managers had a mediating influence on prediction of Leader Behaviour, the results of which are shown in Table 6. Results show that the independent variables account for 14% of the variance in Leader Behaviour. Inspection of the beta weights in Table 6 shows that Age and Social Intelligence offer a significant incremental prediction of Leader Behaviour.

Table 6
Multiple Regression using Age, Cognitive Abilities, Social Intelligence and Emotional Intelligence to Predict Leader Behaviour

	Coefficients			
Variable	B	β		*p*-level[a]
Constant	1.16			.005
Age	.009	.256		.040
Overall Cognitive	.124.	.171		.220
Overall Social	.243	.352		.009
Overall Emotional	-.013	-.021		.885
R^2			.195	
F			4.051	.005
ΔR^2			.147	

[a] N = 72

Testing the Relationship between Self-Awareness and Leadership using Rating-Score Correlations

Correlations between manager‘s self-ratings of Cognitive Abilities, Social Intelligence and Emotional Intelligence at Time 1 and Time 2 were used as the measure of Self-Awareness. A high correlation between a manager‘s ratings of an ability at Time 1 and Time 2 indicates a high level of self-awareness regarding that ability. To allow the reader to examine individual relationships between correlational Self-Awareness scores (Cognitive Abilities, Social Intelligence and Emotional Intelligence) and the Leader Behaviour factors in the LBDQ, bivariate correlations were computed. Inspection of Table 7 shows no significant correlations, indicating that no relationship exists between the Self-Awareness scores and leader Behaviour.

Table 7
Correlations between Self-Awareness Scores Represented by Correlations and Leadership Factors

Leadership Factors	Cognitive Self-Awareness	Social Self-Awareness	Emotional Self-Awareness
Representation	.010	.159	.110
Reconciliation	.113	.011	-.096
Tolerance of Uncertainty	-.052	.175	-.174
Persuasion	.133	.048	.102
Structure	.085	.029	-.042
Tolerance of Freedom	.009	.119	-.072
Role Assumption	.148	-.166	.032
Consideration	-.019	.030	-.062
Production Emphasis	-.025	-.156	.064
Predictive Accuracy	.145	.068	-.162
Integration	-.078	-.001	-.136
Superior Orientation	-.010	-.077	.063

In order to further test Hypothesis 2, which predicted that higher correlational Self-Awareness scores for Cognitive Abilities, Social Intelligence and Emotional Intelligence would be positively

associated with Leader Behaviour, a multiple regression model was constructed. Prior to conducting the regression, the correlations between predictor variables were examined to check for multi-collinearity.

A correlation matrix was calculated to analyse the multi-collinearity between the correlation-based scores for overall Cognitive Abilities, Social Intelligence and Emotional Intelligence of the managers. The results of the analysis are shown in Table 8, showing that the correlations between these scores were small, which indicated that there was not a detrimentally large degree of collinearity between the predictor variables.

Table 8
Correlations between the Overall Correlation-based Scores for Cognitive, Social and Emotional Abilities.

	1	2	3
1.Cognitive Self-Awareness	-	.125	.131
2.Social Self-Awareness		-	.174
3.Emotional Self-Awareness			-

Shown in Table 9 are results of the linear multiple regression conducted entering correlational Self-Awareness scores for Cognitive Abilities, Social Intelligence and Emotional Intelligence as independent variables, and the overall scores for Leader Behaviour as the dependent variable. Results were inconsistent with Hypothesis 2, showing no statistically significant prediction of overall Leader Behaviour from the correlation based Self-Awareness scores on Cognitive Abilities, Social Intelligence and Emotional Intelligence.

Table 9
Regression of Overall Leadership Score on the Correlation based Self-Awareness Scores.

	Coefficients			
Predictor	B	β		*p*-level[a]
Constant	3.771			.000
Cognitive	.102	.065		.596
Social	.048	.028		.820
Emotion	-.079	-.056		.649
R^2			.007	
F			.16	.920
ΔR^2			-.037	

[a] N = 72.

Testing the Relationship between Self-Awareness and Leadership using Difference Scores

Difference scores were used for two reasons in the current study. First, it was important to find out if the difference score measure for Self-Awareness would show an association with Leader Behaviour. Second, it was deemed useful to compare results of the correlational approach to Self-Awareness with the type of measurement methods used in previous research.

The difference scores were calculated by subtracting the scores for self-ratings on Cognitive Abilities, Social Intelligence and Emotional Intelligence at Time 1 from those at Time 2, and taking the absolute value of the product. These difference scores represent the instability of rated abilities exhibited by managers. Hypothesis 3 predicted that high difference scores for Self-Awareness on Cognitive Abilities, Social Intelligence and Emotional Intelligence would be negatively associated with Leader Behaviour. Table 10 on the following page shows correlations between the difference score Self-Awareness measures and the Leader Behaviour sub-scale factors in the LBDQ. Inspection of Table 10 indicates that no significant relationship exists between difference scores gained for Self-Awareness and the Leader Behaviour factors in the LBDQ.

Table 10
Correlations between Difference Score Self-Awareness Measures and Leadership Factors

	Self-Awareness Measures Represented by Difference Scores							
	Cognitive Abilities	Social Information Processing	Social Skills	Social Awareness	Self Emotion Appraisal	Others Emotion Appraisal	Use of Emotion	Regulation of Emotion
Representation	-.095	-.059	.195	.026	-.057	.150	-.113	.229
Reconciliation	-.204	.011	-.076	.074	-.120	-.028	-.029	.040
Tolerance of Uncertainty	-.119	.014	.153	.036	-.053	.141	-.095	.051
Persuasion	-.039	-.039	.023	.063	.097	.164	.002	.191
Structure	-.143	-.040	.119	.085	-.152	.023	-.052	.027
Tolerance of Freedom	.045	.056	.085	-.043	-.038	.160	.009	-.001
Role Assumption	-.044	-.031	.064	.025	-.060	.014	-.151	.125
Consideration	-.062	-.118	.137	-.047	-.200	.127	-.159	.069
Production Emphasis	.056	.031	-.003	.010	-.024	.052	-.082	-.027
Predictive Accuracy	.061	-.028	.077	.063	.035	.093	-.045	.130
Integration	-.034	.060	.223	-.021	-.016	.112	-.072	.121
Superior Orientation	-.033	.160	.201	.073	-.106	.065	.008	.050

Note. The labels for self-awareness factors of have been abbreviated

A linear multiple regression analysis was conducted regressing Leader Behaviour on the difference scores for Self-Awareness of Cognitive Abilities, Social Intelligence and Emotional Intelligence. Prior to conducting the regression, the correlations between independent variables were examined to check for multi-collinearity.

A correlation matrix was produced to show the degree of multi-collinearity between the difference scores for overall Cognitive Abilities, Social Intelligence and Emotional Intelligence of the managers. The results of the analysis are shown in Table 11. The correlations between

these scores are small, indicating that there is only a small degree of collinearity between these variables.

Table 11
Correlations between the Overall Difference Scores for Cognitive, Social and Emotional Abilities.

	Cognitive Scores	Social Scores	Emotional Scores
Cognitive Self-Awareness	1	.389**	.375**
Social Self-Awareness		1	.104
Emotional Self-Awareness			1

**.Correlation is significant at the 0.01 level (2-tailed).

In order to test Hypothesis 3, a regression analysis was undertaken using Cognitive Abilities, Social Intelligence and Emotional Intelligence as independent variables and Leader Behaviour ratings from employees as the dependent variable. The results of this analysis are shown in Table 12 and were inconsistent with Hypothesis 3 in that Self-Awareness was not predictive of Leader Behaviour. Examination of the beta weights shown in Table 12 indicated that employee perceptions of their Leader Behaviour were not influenced by manager's Self-Awareness regarding their own Cognitive Abilities, Social Intelligence or Emotional Intelligence.

Table 12
Multiple Regression Using Cognitive, Social and Emotional Difference Scores to Predict Overall Leadership

	Coefficients			
Variable	B	β		*p*-level[a]
Constant	3.784			.000
Cognitive Difference Scores	.309	.161		.249
Social Difference Scores	.132	.077		.552
Emotion Difference Scores	-.204	-.114		.378
R^2			.039	
F			.919	.436
ΔR^2			-.003	

[a] N = 72.

Discussion

The first aim of the current research was to improve upon methods previously used to study the relationship between self-awareness and leadership and the second aim was to investigate this relationship. In order to improve upon previous research methods, the current study extended measurement of self-awareness beyond the construct of Emotional Intelligence and also extended measurement of self-awareness beyond the use of difference-scores. To investigate the relationship between Self-Awareness and Leader Behaviour, three hypotheses were formulated. Again, it should be mentioned that in the current research the concept of ―leaders" was represented by manager participants, and the concept of ―followers" was represented by employee participants who were subordinate to their respective manager participants. First, it was hypothesised that self-ratings on Cognitive Abilities, Social Intelligence and Emotional Intelligence would be positively related to Leader Behaviour. Second, it was hypothesised that leaders with higher correlational self-awareness scores would be positively associated with Leader Behaviour. Third, it was hypothesised that leaders with lower difference scores for self-awareness would be positively associated with Leader Behaviour. Results indicated support for Hypothesis 1 but not for Hypothesis 2 and not for Hypothesis 3.

The first hypothesis in the current study was formed of the notion that that managers perceiving themselves highly in Cognitive Abilities, Social Intelligence and Emotional Intelligence would also tend to be rated higher on Leader Behaviour by their respective employees. This notion was supported, with the combined measure of all three types of intelligence predicting 10% of the variance in Leader Behaviour, although only Social Intelligence was had a significant association. Further results showed that when age was entered alongside the other predictors, the model accounted for a total of 14% of variance in Leader Behaviour. This indicated that manager age was significantly associated with leadership. These

findings were an important first step in the analysis because the findings demonstrated that the predictor abilities were important in leadership.

The findings for Hypothesis 1 may be qualified to some extent by the elements of the research design, including sampling and measurement. The sample of participants surveyed provided an appropriate fit with the target sample identified for this study, involving male and female managers from a diverse range of organisations. Prior to surveying, it was established that the relationship between any participating manager and their respective employee was inclusive of a sufficient range of interactions to allow for rating on the Leader Behaviour Description Questionnaire (LBDQ). As outlined, all survey measures used in the current study were established by previous research to be scientifically valid and reliable tools.

The current study was designed to measure the extent and nature of the relationship between self-awareness and employee perceptions of Leader Behaviour. Inconsistent with Hypothesis 2, results implied that there was no association between correlational scores for self-awareness and leadership. Based on the argument introduced earlier in this research, it was expected that a measure of self-awareness using correlations between managers‘ self-reports at Time 1 and Time 2 would give an accurate measurement. The argued improvement upon previous methods resides in the fact that the correlations compare patterns of responses across items in the surveys, whereas the previous methods based on difference scores could only provide a representation of difference in the height of ratings.

The findings for Hypothesis 2 may be qualified to some extent with respect to the following elements of the research design. It is important to note that the analysis for the measures of mood rated for by managers at Time 1 and Time 2 showed no significant difference in mood between the two times. This finding enabled the author to assume that managers‘ self-perceptions were unlikely likely to be distorted by mood changes. In addition, one element which potentially qualifies the findings for Hypothesis 1, was the development of a correlational measure. Early on during analysis of the data, it was found that manager‘s self-ratings on Cognitive Abilities,

Social Intelligence and Emotional Intelligence between Time 1 and Time 2 were correlated. The correlations were not found to be statistically significant, but they were correlated purportedly to a practical extent. This implied that the correlational measure for self-awareness was sensitive to a certain amount of similarity between the rating times and therefore provided the study with a functional measure of self-awareness.

Based on the assumption that the analysis regressing Leader Behaviour on correlational self-awareness scores (for Cognitive Abilities, Social Intelligence and Emotional Intelligence) would have detected any present relationship, then the results for Hypothesis 2 do indicate that self-awareness was not related to Leader Behaviour.

To allow for a comparison between the new correlational Self-Awareness measure and methods previously used (Atwater and Yammarino, 1992; Sosik and Megerian, 1999), difference scores were included as a measure in the current study. Based on these previous findings, Hypothesis 3 predicted that difference scores for self-awareness would be associated with employee-rated Leader Behaviour; however, the results did not support this notion. There are several possible explanations for this inconsistency. First, it may be possible that the self-awareness levels present in manager participants did not influence employee-perceptions regarding the managers. A second possible explanation is that neither the correlational approach nor the difference score approach for measuring self-awareness was sensitive enough to detect sufficient levels of Self-Awareness for the analysis. A third possible explanation for the results is that the sampling procedure did not allow for an unbiased selection of employee participants. During the sampling procedure of the current study, it was common for manager participants to select the employee participants who would provide leadership ratings. If some of the managers felt that there were benefits to selecting an employee who would favourably rate them, then this could bias the data. This would seem a plausible explanation except for the fact that all participants in the current study were informed that their responses and data would be kept confidential.

The findings for Hypothesis 3 may be qualified to a certain extent, based on the research

design in the current study. In the introduction of the current research, an argument was proposed for the use of a repeated measure for self-awareness. One key basis for this argument was to gain a consistency measure of awareness within the manager, and although the repeated measure assisted the correlational self-awareness approach, it may also have assisted the difference score approach. Based on the theorised assumption that the difference score approach would have detected self-awareness in the managers, and based on the findings for Hypothesis 1 linking the predictor abilities with Leader Behaviour, the results imply that there is no relationship between self-awareness and Leader Behaviour.

Limitations

As discussed above, the sampling process presented a methodological limitation, in that the researcher could not completely eliminate bias as a source of variance within employee ratings for managers‘ Leader Behaviour. There exists the possibility that this could cause high ratings which were unrepresentative of the true Leader Behaviour in the manager participants.

Given that the results for Hypothesis 1 and Hypothesis 2 were not supported by significant results despite theoretical grounds for hypothesis, the current study may have been limited by the frequency of measuring occasions for the Self-Awareness surveys. In addition to this, the Self-Awareness surveys used in this study may require a longer time period in order to accurately detect Self-Awareness levels in the manager sample.

The results for Hypothesis 2 and Hypothesis 3 showed no prediction of leadership and there is subsequently little basis on which to extrapolate that a larger sample size would produce a significant result in a replication study. The sample size of 72 participant pairs may be sufficient for the aims of this study, so the aforementioned limitations were given priority in the current discussion over any possible concerns regarding sample size.

It would have been useful to collect data on the employee sample because this would help to establish if there were further moderating or mediating effects from demographic variables

among employee participants.

Theoretical Implications

The conceptual extension of Self-Awareness beyond Emotional Intelligence to include Social Intelligence was successful. Findings in the current research demonstrating an association between Social Intelligence and Leader Behaviour, support the literature advocating the two almost synonymous leadership factors of Consideration (Stogdill, 1963) and Concern for People (Blake & Mouton, 1964; 1978). These two factors represent the social side of the leadership process as it relates to the follower; therefore, it logically follows that Social Intelligence should be involved in the study of Self-Awareness and Leadership.

The attempt at a conceptual extension of self-awareness to include Cognitive Abilities was unsuccessful. Findings from the current research demonstrate that Cognitive Abilities and Emotional Intelligence were not highly related to Leader Behaviour. The findings imply that these attributes may not be largely important in leadership despite the literature advocating an association from Cognitive Abilities (Locke, 2005; Lord, DeVader and Alliger, 1986) as well as an association from Emotional Intelligence (Sosik & Megerian, 1999) to leadership.

Practical Implications

In the current research, the author proposed an argument for the design and testing of measures alternative to those in the literature which attracted criticism. This objective was successfully accomplished through the design and implementation of a correlational measure for self-awareness.

In addition, the findings of the current research are widely applicable to situations beyond the conditions occurring within the current study. Manager participants and employee participants completed the surveys at their workplace locations. This meant that the study was not contextually removed from the settings in which Leader Behaviours occur, and that the findings

were less likely to be restricted by the conditions of the study.

If the findings in the current study are replicated by future research, there would be practical implications for organisational leadership. The systems used for the recruitment and professional development of managers could be adjusted to account for a greater importance in Social Intelligence. If replicated evidence were to show that Cognitive Abilities and Emotional Intelligence were less important in leadership than previously believed, this may allow leadership development programmes to divert resources towards the improvement of other leadership-related abilities.

As introduced in the current research, the broader implications of inadequate self-awareness in leaders are of such a magnitude that errors resulting from this inadequacy have a high potential for an adverse impact on followers.

Future Research

If the current study were to be built upon by later research, the following methodological alterations could be of use. A different sampling procedure could ensure that follower participants were chosen by a party other than the leader participants. The self-ratings by leaders could occur at a higher frequency and over a longer time span than in the current study. In addition, the LBDQ could be scored on a Likert scale of seven points rather than five points because this would facilitate a greater degree of sensitivity in the scale. Although a larger sample could possibly help, the sample size does not appear to be a limitation in the current study. In addition to this, the difficulty and costs involved in recruiting groups of employees and managers for participation in an ongoing study may be such that extending the sample size beyond that used in the current study would not be a priority.

Conclusions

From a theoretical perspective, the current research showed leadership to have a stronger link

with Social Intelligence than with Emotional Intelligence. This finding could purportedly elevate the importance of Social Intelligence for leaders higher than was previously recognised. As discussed, the methods employed in the current study enabled a degree of qualification for the resultant findings; however, no unequivocal conclusion could be formed in reference to the relationship between self-awareness and leadership. Based on this finding, a possible implication suggests that followers form perceptions of their leaders regardless of how self-aware the leaders are. In addition, the absence of this relationship prevented a comparison between the correlational approach and the difference score approach in the measurement of self-awareness. Future empirical research could facilitate a comparison between the two methods by use of a sampling procedure, which rules out bias in the selection of followers. Despite the limitations discussed, the current research has added theoretical and practical contributions to the psychological knowledge of self-awareness and of leadership.

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Appendix A

Letter for Contacting Participants

Hello,

My name is Ryan Condon and I am currently conducting researching for my Masters degree in Applied Psychology. I can offer your organisation useful feedback on the leadership performance of your managers, supervisors, or team leaders. I am seeking survey participants for a study requiring surveys a manager and an employee who reports to them.

If you are able to participate, the supervisor/manager is surveyed a second time a couple of weeks later. In return for your time, each participant is can be entered into the draw to win a Hanmer Springs weekend package for two and in addition you are offered an Instant Kiwi scratch ticket.

This study has been reviewed and approved by the University of Canterbury Human Ethics. If you can help this would be greatly appreciated. Also, please email me with any questions you may have.

Thank you

Ryan Condon

Appendix B

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

EMPLOYEE SURVEY
Psychology Department
Information Sheet

You are invited to take part in the research project "The relationship between Self Awareness and Leadership".

The aim of this project is to investigate to what extent self-awareness is associated with certain leadership behaviours.

Your involvement in this project will be to answer the survey questions presented here. In the performance of the tasks and application of the procedures, there are no risks anticipated for this survey.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation. To ensure confidentiality of the results, the data will be stored under password in a locked university department, and only the researcher will have access to this.

This project is being carried out as a requirement for an M.Sc. in Applied Psychology by Ryan Condon, who can be contacted by phoning (03) 364 2987, ext. 4029 or at rjc111@uclive.ac.nz under the supervision of Associate Professor Chris Burt, who can be contacted by phoning (03) 364 2231 or at christopher.burt@canterbury.ac.nz. They will be pleased to discuss any concerns you have about participation in the project.

The project has been reviewed and approved by the University of Canterbury Human Ethics Committee.

Informed Consent
By completing this survey you are consenting to the publication of the results on the basis that no individual, teams or organizations are identified.

Appendix C

MANAGER SURVEY
Psychology Department
Information Sheet

You are invited to take part in the research project "The relationship between Self Awareness and Leadership".

The aim of this project is to investigate to what extent self-awareness is associated with certain leadership behaviours.

Your involvement in this project will be to answer the survey questions presented here. In the performance of the tasks and application of the procedures, there are no risks anticipated for this survey.

As a follow-up to this investigation, you will be asked to complete the survey a second time. In order to match your two surveys, you are asked to enter a code. This will maintain your confidentiality, while allowing your surveys to be matched.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation. To ensure confidentiality of the results, the data will be stored under password in a locked university department, and only the researcher will have access to this.

This project is being carried out as a requirement for an M.Sc. in Applied Psychology by Ryan Condon, who can be contacted by phoning (03) 364 2987, ext. 4029 or at rjc111@uclive.ac.nz under the supervision of Associate Professor Chris Burt, who can be contacted by phoning (03) 364 2231 or at christopher.burt@canterbury.ac.nz. They will be pleased to discuss any concerns you have about participation in the project.

The project has been reviewed and approved by the University of Canterbury Human Ethics Committee.

Informed Consent
By completing this survey you are consenting to the publication of the results on the basis that no individual, teams or organizations are identified.

Appendix D

Instructions for Manager for Administering the Enclosed Surveys

Thank you very much for participating in this research.

1) There are three envelopes enclosed. Two of these are labeled Manager/Supervisor (Time 1 and 2) and the other is labeled Employee.

2) You (the Leader/Manager) are asked to complete the surveys in the Leader envelopes with a two week interval between them.

3) Please complete the survey in the envelope marked Manager/Supervisor Time 1, and then post it in the envelope which is pre-paid and ready to send.

4) You are asked to complete the second survey at least 2 weeks after the first, and then post that in its pre-paid envelope as well (marked Manager/Supervisor Time 2). If you wish to go into the prize-draw to win a weekend for two in Hanmer Springs, please write your email address on the email-slip in the envelope and put that in when you post the second survey back.

5) Please give the envelope marked Employee to an employee that you directly supervise/manage who can rate your leadership performance. In that envelope are the instructions for the employee.

All participants should read the Information Sheet on the front of the surveys before beginning.

Appendix E

Instructions for Employee

Thank you very much for participating in this research.

1) Please find the survey and email-slip included in this envelope.

2) Please ensure that you know which manager/supervisor you are rating in the survey, read the instructions on the front of the survey and then complete the survey.

3) When the survey is complete, please write your email address on the email-slip if you wish to go in the draw to win a weekend for two at Hanmer Springs.

4) Please post the survey and email-slip in the envelope which is pre-paid and ready to send.

Appendix F

Self Awareness Survey

-Please read each question carefully.
-Please answer all of the questions.
-The usefulness of this survey depends on the frankness
and honesty with which you answer the questions.

Demographic Information

*This survey is entirely **anonymous** and **confidential**. Please **do not** write your name on it.*

Gender (please circle one): Male / Female

Age:.....

Job Title:.....

.....

How long have you worked in this position?

.....

Coding for Anonymity

*In order to guarantee that your answers are **anonymous**, please provide the following information so we can **code** your set of answers.*

Please write the first two letters of your mother's first name, and the last 4 digits of your cell-phone number (if you don't have a cell-phone, put the last 4 digits of your landline). *As an example, if your mother is May and your phone number is 021 176456, write MA6456.*

Code:
.....

This section asks you to rate how true the following statements are of you. Please select a score from the scale below and write it in the box to the right of the statement. Please give an honest indication/estimate of how accurately these statements describe you. There are no employment-related consequences for any of these questions, and the anonymity and confidentiality of your responses will be preserved.

Note: Under some of the statements, will appear a description in italics to clarify the statement.

Describes me extremely poorly						Describes me extremely well
1	2	3	4	5	6	7

I have a high ability in listening to and understanding words and sentences spoken by others.	
I have a high ability to understanding written words and sentences.	
I have a high ability to speak words and sentences so others will understand.	
I have a high ability to write words and sentences so others will understand. *This includes the ability to communicate information and ideas in writing. This ability involves knowledge of the meanings and distinctions among words, knowledge of grammar, and the ability to organize sentences and paragraphs.*	
I have a high ability to come up with a number of ideas about a given topic. *This concerns the number of ideas produced, rather than the quality, of ideas.*	
I have a high ability to come up with unusual or clever ideas about a given topic or situation. *This is the ability to produce creative solutions to problems or to develop new ways to solve a problem when the standard ways don't apply.*	
I have a high ability to remember information such as words, numbers, pictures, and procedures. *This includes pieces of information being remembered by themselves or with other pieces of information.*	
I have a high ability to tell when something is wrong or is likely to go wrong. *This is the ability to identify the whole problem as well as the various parts of the problem.*	
I have a high ability to understand and organize a problem and then to select a mathematical method or formula to solve the problem. *This encompasses reasoning through mathematical problems, in order to determine appropriate operations which can be performed to solve problems. It also includes the understanding or structuring of mathematical problems. The actual manipulation of numbers is* ***not*** *included in this ability.*	
I have a high ability to add, subtract, multiply, or divide numbers quickly and correctly. *These procedures can be steps in other operations like finding percents and taking square roots.*	
I have a high ability in applying general rules to specific problems, to come up with logical answers. *This involves deciding if an answer makes sense.*	
I have a high ability to combine separate pieces of information, or specific answers to problems, to form general rules or conclusions. *This involves the ability to think of possible reasons why things go together. It also includes coming up with a logical explanation for a series of events that seem unrelated.*	
I have a high ability to correctly follow a rule or set of rules in order to arrange things or actions in a certain order. *The rule or set of rules to be used must already be given. The things or actions to be put in order can include numbers, letters, words, pictures, procedures, sentences, and mathematical or logical operations.*	

Describes me extremely poorly						Describes me extremely well
1	2	3	4	5	6	7

I have a high ability to produce many rules so that each rule tells how to group a set of things in a different way. *Each different group must contain at least two things from the original set of things.*	
I have a high ability to quickly make sense of information that at first seems to be without meaning or organization. *This involves the degree to which different pieces of information can be combined and organized into one meaningful pattern quickly. The material may be visual or auditory.*	
I have a high ability to identify or detect a known pattern (a figure, word, or object) that is hidden in other material. *The task is to pick out the pattern you are looking for from the background material.*	
I have a high ability to tell where I am in relation to the location of some object, or to tell where the object is in relation to me. *This ability allows you to keep oriented in a vehicle as it changes location and direction. It helps keep you from getting disoriented or lost as you move about in a new environment.*	
I have a high ability to imagine how something will look when it is moved around or when its parts are moved or rearranged. *This requires the forming of mental images of what patterns or objects would look like* ***after certain changes****, such as unfolding or rotation. You have to predict what an object, set of objects, or pattern would look like after the changes were carried out.*	
I have a high ability to compare letters, numbers, objects, pictures, or patterns, both quickly and accurately. *The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.*	
I have a high ability to concentrate on a task without getting distracted. *When distraction is present, it is not part of the task being done. This ability also involves concentrating while performing a boring task.*	
I have a high ability to shift back and forth between two or more sources of information. *The information can be in the form of speech, signals, sounds, touch, or other sources.*	

Please indicate the degree to which each statement describes **you**, by circling a number.

1 = describes me extremely poorly and **7 = describes me extremely well**

	Describes me extremely poorly						Describes me extremely well
I can predict other people‘s behaviour.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I often feel that it is difficult to understand others choices.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I know how my actions will make others feel.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I often feel uncertain around new people who I don‘t know.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
People often surprise me with the things they do.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I understand other people‘s feelings.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I fit in easily in social situations.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Other people become angry with me without me being able to explain why.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I understand other‘s wishes.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I am good at entering new situations and meeting people for the first time.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
It seems as though people are often angry or irritated with me when I say what I think.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I have a hard time getting along with other people.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I find people unpredictable.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I can often understand what others are trying to accomplish without the need for them to say anything.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
It takes a long time for me to get to know others well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I have often hurt others without realizing it.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I can predict how others will react to my behaviour.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I am good at getting on good terms with new people.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I can often understand what others really mean through their expression, body language, etc.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I frequently have problems finding good conversation topics.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I am often surprised by others reactions to what I do.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Please indicate the degree to which each statement describes **you**.

1 = describes me extremely poorly and **7 = describes me extremely well**

	Describes me extremely poorly						Describes me extremely well
I have a good sense of why I have certain feelings most of the time.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I have good understanding of my own emotions.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I really understand what I feel.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I always know whether or not I am happy.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I always know my friends emotions from their behaviour.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I am a good observer of others emotions.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I am sensitive to the feelings and emotions of others.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I have good understanding of the emotions of people around me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I always set goals for myself and then try my best to achieve them.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I always tell myself I am a competent person.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I am a self-motivated person.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I would always encourage myself to try my best.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I am able to control my temper and handle difficulties rationally.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I am quite capable of controlling my own emotions.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I can always calm down quickly when I am very angry.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
I have good control of my own emotions.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

INSTRUCTIONS: Circle the response on the scale below that indicates how well each adjective or phrase describes your present mood.

(definitely do not feel) (do not feel) (slightly feel) (definitely feel)

XX X V VV

Lively	XX X V VV	Drowsy	XX X V VV
Happy	XX X V VV	Grouchy	XX X V VV
Sad	XX X V VV	Peppy	XX X V VV
Tired	XX X V VV	Nervous	XX X V VV
Caring	XX X V VV	Calm	XX X V VV
Content	XX X V VV	Loving	XX X V VV
Gloomy	XX X V VV	Fed up	XX X V VV
Jittery	XX X V VV	Active	XX X V VV

Thank you for participating in this study